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Dear Cooperator:

If we could visit with each of you personally, some of the questions which would be sure to come up would be, "What's new in districts? How many new ones are there? And where will the next ones be located?" It seems that a conversation about conservation always leads up to those questions. And so -- we present below in brief form the highlights of activities in soil conservation district organization since the last issue of the Zephyr.

Four new districts have been voted in, bringing the total to twenty in the state. These are the Fall River County, Scotland, Roberts, and Tulare-Redfield. All were created with wide margins of favorable votes and with a high percent of the land area voting.

Supervisors in the Scotland District are Sylvester Petrik, Tom Voy, Joseph Stverak, Jr., J. A. Cole, and J. E. Lehman. The supervisors in the Roberts District are Peter Anderson, Edward Balvin, O. K. Sather, Clifford Meland, and Wilhelm Nelson. The appointed supervisors in the Fall River County District are Clarence E. Daech and Earl B. Robinson. The elected supervisors in the district are Cornelius

Hofman, John McLain, and either P. H. Lorenz or E. G. Roll who are tied for third place until such time as the State Committee meets.

Progress is being made in the Jackson District, and it is expected that the referendum will be held sometime this month. This will be the first district in the state which embraces an entire county.

The hearing has been held in Minnehaha County and the State Committee have approved the organization of the Minnehaha District. Present indications are that this referendum will be held in September.

Petitions are being circulated and educational meetings being held in Codrington, Day, Tripp, and Gregory Counties at the present time. Hearings for these districts will be conducted in the next few weeks.

A hearing was held in the Firesteel Creek District in Aurora County but the State Committee denied their petition. This will mean that the interested area must wait for six months before they may petition for a second

Look for it--CONSERVATION WEEK--In Sept.

hearing. This is the third time that the Committee have denied petitions.

And just a little note on progress during the past year (July 1, 1940 to June 30, 1941) -- 1501 cooperative agreements were signed during that period. This is a new high and one that we may all be proud of. Conservation is growing up in South Dakota, in fact, we might say that it will become of age when the twenty-first district is organized.

Plan for it--CONSERVATION WEEK--In Sept.

Erosion Serious in Corn Fields; Solved by Planting on Contour

In Clay County corn is king. Yet no other crop subjects the soil to so much damage from water erosion, especially on the sloping lands.

The soil, plowed early in the spring, has no cover or root growth to protect it when beating rains fall, because the corn is too small when these heavy rains come -- generally during June and July. As a result water runs off the fields, takes the topsoil with it and the topsoil and water are deposited on the low lands or carried down to the Vermillion or Missouri River. Later in the season, after the corn gets larger and rainfall is less, the moisture that should be there to produce a crop is gone. When corn picking time comes the bins on these farms are not as full, even though the soil may still be good and good farming methods are followed.

Of course, not all Clay County land is subject to such erosion. But, like in parts of any South Dakota county, there are farms with long or steep slopes that must be left in crops. This year, with three hard rains, each of over two inches, gullies several inches deep were formed between the corn rows on many such farms.

Three farmers in the area described have what they think is the right idea. Lester Ellison, E. A. Gronlund, and Franklin Orr, all living south of Wakonda, have all their corn planted on the contour this year. All three men had some corn planted on the contour last year and were so well satisfied with the results that they planted it all that way this year. A visit to their farms would convince even the most pessimistic that they had hit upon the right idea.

As they live within the boundaries of the Clay County soil conservation district they called upon the supervisors and the Soil Conservation Service to help them with their problems. Elvin C. Bjorklund, district conservationist, and two members of his staff, Dwight Morrow and Bill Soule, studied the problem thoroughly and worked out a plan that was agreeable to all parties.

This plan, of course, called for corn on the contour. Now each row is as level as land on the river bottom. Each corn row and each cultivation mark serves as a small dam instead of a small ditch to speed up the rate of water runoff. The moisture has more time to soak into the ground and will be available to the crop later in the season when it gets hot and dry. And this fall, as last fall, they expect to have more corn in their cribs to show for their summer work.

Those are not the only advantages of contour farming. Of a recent rain, Mr. Orr said, "Smaller rains than the one last June 21 have caused the water to run over the road grade and take away my fence. Now with a heavier rain and the entire watershed contour farmed, very little water ran over the same grade and my fence is still there."

The three men agree that the plan has disadvantages but that they would not go back to up-and-down-hill farming.

Tripp County Farm Begins New Era Using Water Irrigation Under SC District Plan

Charles Richey, cooperator on the Clearfield-Keyapaha Soil Conservation District, Winner, started his irrigation pump for the first time June 26. "We will have spuds, corn, and alfalfa now," was his comment as the water ran down the irrigation ditch and started to spread out over the newly leveled and planted field.

A year and a half ago, Mr. Richey started planning and developing a pumping irrigation system from the Keyapaha River which runs through his farm four miles northwest of Wewela. This summer he plans to irrigate 12 acres of crops from his pump, but by placing a culvert under a road he will be able to irrigate 43 acres next year.

One of the main reasons for the development of this system was the desire to secure a dependable supply of winter feed for the 1,480 acre general livestock farm operated by Mr. Richey and his two sons. In a few years the greater part of the 43 acres to be irrigated will be put to alfalfa, leaving some room for a garden.

"This is something I have thought about for a long time," Mr. Richey said when talking to neighbors about his new project, "but always felt that it was too big a job until the Soil Conservation District was organized and their technical men came out and surveyed the land, made maps to determine just how big a job it was, and gave me a definite plan to work from."

Since the farmstead is located below the irrigation ditch, Mr. Richey let it be known that some water was going to be used on the front lawn and for some trees around the house.

Other conservation practices found on the Richey farm include 122 acres of

new grass seeding on abandoned crop land; one 1,900-cubic yard water storage dam fenced out for a recreational and wildlife area, which also furnishes water to a stock tank by a pipe through the dam and float valve; 50 rods of water spreading ditches; and 1,210 acres of controlled grazing.

Look for it—CONSERVATION WEEK—In Sept.

Sub-Surface Tillage Demonstration

One and one-half miles west of Lyman, South Dakota, on Highway #16 a demonstration of "contour farming" is being made along side of "up-and-down hill farming," on the farm of Ed. Cullen who is cooperating with American Creek Soil Conservation District and Extension Service in comparing various methods of tillage and seeding and to make crop yield tests.

Barley was seeded with a broadcast seeder and disked in on one field; another field was disked and barley seeded with a common spacing grain drill; still another field was seeded with a shovel type deep furrow drill.

For a row crop Colby milo (certified seed) was used. In one field, it was seeded with a deep furrow drill on the contour, after the soil was tilled with a sub-surface machine. Another field was disked twice and the milo planted with a rolling-shoe corn planter. In this way the crop residue (stubble) from last year was left on the surface of the soil. A sub-surface machine will be used to cultivate the rows of milo.

Strip cropping is also practiced by alternating close-growing and row crops in the strips.

Mr. Cullen is a strong believer in farming which conserves moisture, prevents soil erosion, and obtains greater yields.

Sub-Surface Tillage Last Fall
Puts Water in Soil this Spring

"There is more here than appears on the surface," was the comment of John Berg, cooperator and supervisor on the Silver Creek Soil Conservation District, looking over one of his fields that had been sub-surface tilled in the fall of 1940. Various types of sub-surface tillage implements were used on this field to determine their relative merits. Mr. Berg used some form of tillage on all his small grain fields last fall.

"My first observation this spring was that the potholes were not filled with water as a result of the snow and spring rains," Mr. Berg continued, "and they would have been full if the fields had not been fall tilled.

"Putting this moisture in the soil where it falls is not the only advantage of this sub-surface fall tillage," Mr. Berg concluded, "but it also retains it by the blanket of crop residue on the surface. The blanket serves two other major purposes -- holding the snow and preventing soil movement by the wind."

Tom Bratstrud of Forestburg, another Sanborn County farmer and cooperator on the Silver Creek Soil Conservation District, used the oscillating disc on fields where the growth was so great that other implements could not be used successfully.

"I was pleased that the tillage had proven so successful in keeping the water out of the low places," Mr. Bratstrud states. "This not only enabled me to prepare the land and seed this field earlier but it gave a greater and better distribution of moisture than when all tillage was performed in the spring."

Clearfield-Keyapaha District Plants
132,700 Trees; 209 Acres of Grass

During the past spring 132,700 trees were planted on the Clearfield-Keyapaha Soil Conservation District. Of this number, 102,000 were furnished by the district and 30,700 were furnished by the cooperating farmers. One hundred-sixty acres of new tree plantings were made and 97.5 acres of old plantings were replanted, replacing trees that failed to survive the past winter.

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During the past month the district has seeded 2,320 pounds of sudan grass seed on 209 acres of badly blown cropland to stabilize the soil and prevent further blowing. This acreage was all in "blowout holes" that had to be leveled first, then listed to prevent further blowing, the sudan being broadcast ahead of the lister and also seeded in the planter boxes following the lister. To date there is a good stand of sudan on all areas seeded.

If a good cover crop is secured, these areas will be seeded to native grasses this fall. If a poor cover is secured, then fall rye will be seeded and left until the following year when a grass mixture will be seeded to secure a permanent cover.

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Five farmers on the Clearfield-Keyapaha Soil Conservation District are cooperating with the District Supervisors in developing small pump irrigation systems for their farms. They are Doris Turney, Fred Menke, Frank Ziebel, Carl Diez, and Chas. Richey. These systems are in operation at the present time. Two additional operators have made application for assistance in developing irrigation systems for their farms. Home gardens, corn, and alfalfa are the main crops growing on this irrigated land.

Trees Furnished by Government Decrease 200,000 but Number
Purchased by Farmers Increases 100,000 for 70 Percent Total Rise

Tree planting is an important part of the conservation program in most areas in South Dakota. The question often arises as to just how many trees have been planted under the conservation program, how many the Soil Conservation Service furnished, and how much the cooperators contributed. The statistics below are presented as answers to these questions:

	<u>SCS Stock</u>	<u>Purchased By Cooperator</u>	<u>Total Planted Under SCS Operations</u>
Spring 1940	1,443,221	144,865	1,588,086
Spring 1941	1,249,061	241,223	1,490,284
(These figures include all work units and all types of plantings)			

The figures show that while the stock furnished by the government decreased by 200,000 plants, the amount purchased by cooperators increased by 100,000 plants, or an increase of around 70 percent over last year.

Tree planters, WPA laborers, and CCC enrollees were all used in getting the tree planting program done on time. Plans are now being made by many districts to do more planting with the aid of the tree planting machine in 1942.

Crested May Control Creepers

Will crested wheatgrass kill creeping jenny? That is a question which may be answered in the near future, now that crested has been planted in so many areas of the state. A large acreage was seeded to crested in Jackson County in the purchase area in the fall of 1939. The seeding was done in strips with every other drill width left unplanted. The crested wheatgrass has made a very good growth but has not spread over into the unseeded areas as yet.

This summer when the field was inspected it was noticed that creeping jenny was growing in the areas not seeded. The strips where the crested was growing were relatively free of this noxious weed. In most instances the creepers stopped where the first row of crested grew in each seeded strip. While "one swallow never makes a summer," and one isolated instance

of this type is not conclusive -- yet, maybe we have "got something there." It will at least bear watching in other crested fields over the state.

Look for it--CONSERVATION WEEK--In Sept.

**Crested Wheatgrass Successfully
Established on Restoration Land**

The West Point township farm operated by Roy LaVoy and owned by C. D. Tidrick, cooperators of Brule-Buffalo Soil Conservation District, has one of the first successful plantings of crested wheatgrass in Brule County.

The planting was made in the spring of 1938. The first year the grass stand appeared a complete failure. Mr. LaVoy, however, gave it another year to prove itself. There was a considerable increase in stand in 1939 and by last fall Mr. LaVoy had a very good stand of crested wheatgrass. A planting may need two or three years to show a good stand.

Sub-Surface Tillage Saves Water

Moisture penetrated 22 inches deeper on sub-surface tilled soil than on soil tilled with a disc on the farm of George Egger, of Farmingdale, South Dakota.

Mr. Egger checked moisture penetration just after an early June rain. On the area sub-surface tilled, moisture had penetrated 42 inches. On the area just alongside, tilled with a standard disc, penetration was only 20 inches. The greater penetration, says Mr. Eggers, indicates that practically all the rain soaked into the soil where it will be stored for future use.

Look for it—CONSERVATION WEEK—In Sept.

Land leveling for irrigation is one of the conservation practices in the Lawrence-Butte soil conservation district. To date 20,800 yards of earth have been moved in leveling 140 acres. Floyd F. Collins, county agent for Butte County, reports that at the July meeting of the supervisors they had received 64 applications for assistance and had 23 agreements approved.

Plan for it—CONSERVATION WEEK—In Sept.

Huron Project Stops Erosion Damage

And Plans Conservation for Future

The Soil Conservation Service found it had two distinct jobs in the central part of South Dakota in its first project at Huron: First, to investigate emergency control measures to prevent further damage to and to restore to usefulness the most severely eroded lands; and second, to develop a long time soil conservation program for the area that would safeguard all land from damage by erosion.

The emergency work included such things as cleaning soil from around

buildings and tree lots, drifted fence rows, leveling hummocky lands, and growing a cover crop to hold the land. The second job, that of establishing a permanent soil conservation program for the area is far less spectacular but more comprehensive than the emergency work, in that its aim is to rebuild and permanently maintain soil values. In both instances the project had to pioneer in developing practices as no previous work had been done that would serve as a pattern to follow.

The first step taken to build a foundation for a sound soil conservation program was to make a survey of the soils in the area. While the soil survey was going on, four large caterpillar tractors and an equal number of road blades were started to work removing wind blown soil from farm buildings, tree lots, fence lines, and leveling soil hummocks on crop land. Three small caterpillar tractors, each pulling a three-bottom lister, were put to work listing blowing crop land so as to stop soil movement and prepare a seed bed for a cover crop that would hold the land. Soil drifts were removed from 80 farmsteads and treelots and 20 miles of fence lines. There were 48,252 rods of fence constructed. Hummocks were leveled on over 1500 acres of crop land during the fall of 1935 and the spring of 1936. About 6,000 acres of crop land were listed and a seed bed prepared for a cover crop by the spring of 1937. In all, 252 farms were worked on and all of these required some emergency erosion control measure.

The long time and permanent part of the conservation program was initiated by establishing strip cropping on the Huron project. This enabled farmers to alternate row crops on clean tilled fields with fields that are more protected with stubble and other crop residue. Farmers on the project have established over 50,000 acres of strip cropping.

A very important part of the permanent conservation program in this part of South Dakota is growing perennial grasses on crop land. "More grass and less crop land" farmers are talking and have been talking for some time. "How can we establish a good stand of grass on crop land in a year or so?" farmers are asking. Land or seed bed preparation for grass has been studied carefully during the past five years; also, time of planting grass, depth of planting, and the varieties best adapted to this part of the state. Considerable practical information and resulting improvement in practices have come from the above-mentioned studies.

Plant pathologists now have a rather clear idea of the destruction of grass plants by root rots and are concentrating their efforts on finding remedial measures and practices. In this connection they are giving farmers on the Huron project close cooperation and farmers are declaring that this work must go on.

Improving tillage of crop land is more and more becoming a vital part of the permanent conservation program. "Can weeds be destroyed and a seed bed for corn, sorghums, and grain be prepared and still keep the land covered, protected and safe from wind erosion, and largely protected from water erosion?" farmers are asking. The answer to this question may be "Yes."

In the fall of 1940, 20 farmers on the project used the duckfoot or sub-surface tillage machines available and cut the roots of weeds that were growing in their grain and other stubble lands. In most instances two operations were necessary to destroy most weeds and prepare a seed bed. Three operations were necessary in the program of control of creeping jenny or bindweed. Corn, sorghums, and small grain are being grown on land prepared in this way.

Results so far are very gratifying. A number of farmers are now taking steps to organize a soil conservation district to continue this tillage work on a cooperative basis.

A part of the long time conservation program has been that of improving pasture lands. This has been accomplished by controlling the number of livestock that graze a pasture to what the pasture can properly handle. A number of farmers in this territory have found that by properly restricting grazing, by seeding grass on bare areas and by establishing water for livestock in all needed parts of the pasture, they have been able to get maximum production out of their pasture lands. In connection with the pasture improvement program on the Huron project several thousand acres have been placed under controlled grazing and 38 dugouts and dams have been built in pastures. A number of farmers feel that the pasture management and improvement program is only well started and further developments are much needed.

Farmers consider growing trees as an essential part of a permanent conservation program. They have shown great interest in planting shelterbelts through fields as a means of eventually retarding wind velocities on crop land. They have improved old farmstead plantings and established new plantings around other farmsteads. In this connection about 1500 acres of trees have been planted on 144 farms on the Huron project.

The above-described essentials of a permanent soil conservation program are being carefully studied by farmers in the Huron project. Much work is yet to be done in a number of these fields, and farmers are generally beginning to feel that a district organization is necessary to carry out a permanent conservation program in this part of South Dakota.

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